

NASA Armstrong Flight Research Center  
G-III Support Aircraft Purchase Requirements  
May 28, 2015

1.0 Base Requirement

- 1.1 Gulfstream III (G-III) business jet aircraft in FAA certified, flyable condition
  - 1.1.1 Aircraft shall be flyable under FAA Part 91 certification with no restrictions (e.g., no single flight ferry permit)
  - 1.1.2 Aircraft shall be equipped with a 300 Amp Transformer Rectifier (TR) per ASC 111.
- 1.2 All engines, Auxiliary Power Unit, avionics, flight control, and interior systems shall be installed and operational.
- 1.3 Aircraft shall be equipped with engine hush kits to meet FAA Stage 3 or higher (more stringent) noise requirements.
- 1.4 Aircraft usage shall not exceed
  - 1.4.1 15,000 flight hours total since new
  - 1.4.2 7,500 ground-air-ground cycles since new
- 1.5 Aircraft shall be equipped with extended fuel capacity and increased weight limitation per Gulfstream ASC 30 and ASC 70
- 1.6 Cabin interior shall be equipped to seat at least 10 passengers

2.0 Avionics System

- 2.1 Installed avionics shall be capable of achieving RNP 0.3 or less. (e.g., RNP 0.1)
- 2.2 Aircraft shall be Reduced Vertical Separation Minimum (RVSM) certified
- 2.3 Installed avionics shall be Automatic Dependent Surveillance – Broadcast (ADS-B) ready.
- 2.4 Installed avionics shall include the following or equivalent:
  - 2.4.1 VHF radios will have 8.33 kHz frequency spacing capability
  - 2.4.2 Aircraft Instrument Landing System (ILS) shall be FM immune
  - 2.4.3 Operational weather radar system
  - 2.4.4 Mode S Transponder w/Flight ID
  - 2.4.5 Operational TCAS W/ Mod 7 capability
  - 2.4.6 Dual HF radios with SELCAL
  - 2.4.7 Two operational Inertial Navigation Units (INS or IRS)
  - 2.4.8 An operable EGPWS with rev 218-218 or later

3.0 Engines

- 3.1 Installed engines shall be Rolls Royce Spey Mark 511-8
- 3.2 All mandatory engine service bulletins shall have been complied with
- 3.3 Engines shall have at least 2.5 years remaining prior to next calendar driven mid-life inspection or overhaul date
- 3.4 Engines shall have at least 1,500 hours remaining prior to next operating hour driven mid-life inspection or overhaul
- 3.5 Engines shall be enrolled and up-to-date in the Gulfstream Computer Maintenance Program

- 3.6 Engines shall be equipped with continuous (air-start) ignition capability per ASC 278
- 4.0 Condition
  - 4.1 Exterior paint and finish shall be in good condition with no obvious peeling, chips, dents, or other damage beyond normal usage wear around latches, doors, moving surfaces, etc.
  - 4.2 Interior systems and appliances shall be clean and in working order
  - 4.3 Interior paint and finish shall be clean and in good condition with no obvious cracks, dents, tears, scratches, disrepair, or other damage beyond a limited amount of normal usage wear.
- 5.0 Maintenance Status
  - 5.1 No overdue maintenance and airworthiness directives for the aircraft type and installed systems.
  - 5.2 All applicable yet non-overdue maintenance and airworthiness directives for the aircraft type and installed systems are at least 12 months or 10%, whichever is less, from reaching due date or time limits
  - 5.3 Life limited components shall have at least 20% life remaining before inspection or replacement is required.
  - 5.4 The aircraft shall be enrolled and up-to-date in the Gulfstream continuing maintenance program
- 6.0 Deliverable Data Package
  - 6.1 All operators and maintenance manuals shall be provided for the aircraft and installed equipment
  - 6.2 Maintenance records documenting compliance actions for all airworthiness directives and manufacturer maintenance directives issued for the G-III type aircraft.
  - 6.3 Maintenance records documenting accomplishment of the inspections and repair actions associated with the most recent accomplishment of the various calendar, hour and cycle based inspections
  - 6.4 All maintenance records documenting the last 3 years of all maintenance and repair activity on the aircraft.
  - 6.5 All wiring diagrams from original outfitting to any mod that has been performed
  - 6.6 All records to be provided in a legible form either as hard-copies or electronically in PDF format. Legible copies are acceptable.
- 7.0 Pre-award Inspection
  - 7.1 NASA shall be allowed to perform a pre-award inspection of the aircraft and its maintenance records to verify that the aircraft equipment, condition, and maintenance records comply with the requirements in the preceding sections.
  - 7.2 NASA representatives may include up to 6 (total) NASA employees and NASA contractor personnel responsible for operation and maintenance of NASA aircraft stationed at the Armstrong Flight Research Center.
  - 7.3 NASA's inspection of the aircraft will require access to:
    - 7.3.1 Cockpit
    - 7.3.2 Cabin
    - 7.3.3 Galley
    - 7.3.4 Lavatory

- 7.3.5 Cargo hold
- 7.3.6 Landing gear & landing gear doors and wells
- 7.3.7 Vertical and horizontal tail
- 7.3.8 Wings
- 7.3.9 Weather Radar
- 7.3.10 Interior of all service access panels
- 7.3.11 Exercising of the control surfaces, flaps, and spoilers
- 7.3.12 An engine run not-to-exceed 1 hour
- 7.4 NASA's inspection of aircraft and engine maintenance records will require access to:
  - 7.4.1 Aircraft log books (or up-to-date copies) at NASA AFRC for up to 1 week prior to on-site inspection.
  - 7.4.2 On-line access to the offered aircraft Gulfstream CMP records from NASA AFRC for one person for up to 1 week prior to on-site inspection
  - 7.4.3 Records documenting compliance with manufacturer maintenance directives/service bulletins
  - 7.4.4 Records documenting compliance with FAA Airworthiness Directives
  - 7.4.5 All maintenance records and pilot maintenance write-ups for the years 2013, 2014, and 2015
- 7.5 NASA, at its discretion and expense, may request that a certified maintenance and repair station perform a pre-sale inspection at the aircraft's current location.